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Original Research Paper

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TRIPLE NEOPLASM- A RARE CASE REPORT.

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ABSTRACT Multiple neoplasms in a single individual is not a common finding. Genetic, environmental, lifestyle and hormonal factors have been implicated in the development of multiple neoplasms. Periampullary carcinoma has been associated with colonic cancer, endometrial cancer, melanoma as a part of syndromic association. Distal cholangiocarcinoma has not been seen associated with any other neoplasms till now in the literature. Here we would like to report a rare case of distal cholangiocarcinoma along with adrenal adenoma and duodenal well differentiated neuroendocrine tumor.

KEYWORDS : Distal Cholangiocarcinoma, Adrenal Adenoma, Neuroendocrine Tumor, Multiple Neoplasm

INTRODUCTION

Multiple neoplasms in an individual have been reported at a variable frequency of 2-17%[1–4]. The challenge in these patients is differentiating the second primary from metastasis and formulating a treatment protocol. Various factors play a role in development of the second primary which includes genetics, hormonal factors, lifestyle and environmental factors[5]. Periampullary carcinoma is one malignancy which is seen routinely by gastrointestinal surgeons. It includes malignancy arising from the head of pancreas, distal bile duct, ampulla of Vater and duodenum around the ampulla.

Periampullary carcinoma can be associated with colorectal malignancy in Familial Adenomatous Polyposis. In Hereditary nonpolyposis colon cancer syndrome, pancreatic cancer can be seen in association with stomach, breast, endometrial and renal cancers[6–8]. Pancreatic malignancy can be associated with Ataxia telangiectasia, Familial atypical mole multiple melanoma syndrome and Peutz-Jeghers syndrome. In all the syndromes pancreatic malignancy can be associated with malignancy in other organs. However, distal cholangiocarcinoma has not been reported to be associated with other neoplasms. Here we describe a case of distal cholangiocarcinoma associated with adrenal adenoma and duodenal well differentiated neuroendocrine tumor due to its rarity and also to emphasize on clinical judgment in management of malignancy.

Case Report

A 65 year old gentleman who was a known diabetic presented to us with jaundice of one month duration. Before coming to us he had taken 15-20 days of alternative form of medications which had further aggravated his jaundice. He had no history of malignancy in his family members. On evaluation, he was found to have an obstructive pattern of jaundice with bilirubin levels of 17mg/dL (Normal 0.1-1.2mg/dL). Preliminary ultrasonography of the abdomen confirmed an obstructive pattern of jaundice by showing dilated extrahepatic and intrahepatic biliary system and a suspicious mass in the distal common bile duct (CBD) for further evaluation. His Carbohydrate Antigen 19-9 (CA 19-9) was 127U/L. Contrast enhanced CT of abdomen and pelvis with screening of chest was done to know the extent of disease. CT showed dilated intrahepatic and extrahepatic biliary ducts with abrupt cutoff at the level of distal CBD with a suspicious lesion at the distal CBD infiltrating adjacent pancreas (Fig. 1). There was no vascular invasion in the form of hepatic artery, superior mesenteric artery or portal vein. He also had a lesion in the left adrenal gland measuring 1.5*1.5cm (Fig. 2), with an unenhanced HU of 12 and relative percentage washout of 45% the lesion was suggestive of adrenal adenoma. There were no enlarged peripancreatic lymph nodes, no evidence of any other lesions suggestive of metastasis in abdomen or chest.

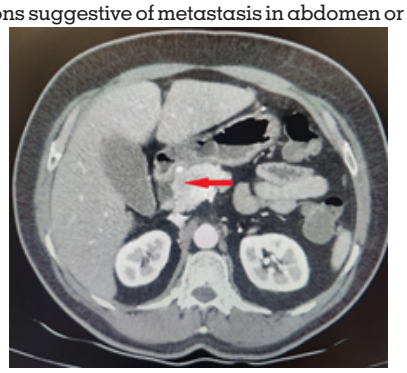


Fig. 1: CECT abdomen showing lesion at distal bile duct.

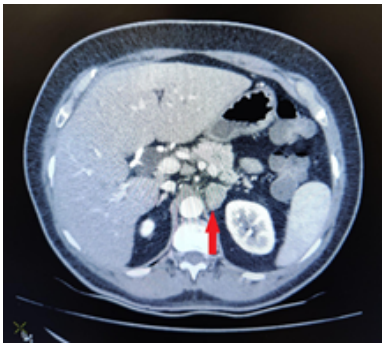


Fig. 2: CECT abdomen image showing lesion in the left adrenal gland.

Patient was subjected to upper gastrointestinal endoscopy which showed a solitary 0.5cm sessile polyp at the junction of first and second part of duodenum(Fig. 3).

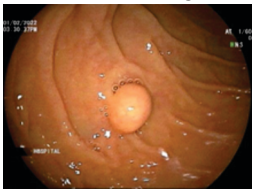


Fig. 3: Polyp in the Duodenum

Case was discussed in the Multidisciplinary Tumor Board of our hospital and following consensus was reached- in view of CA 19-9 being 127U/L, absence of locoregional lymph nodes and borderline high values of Hounsfield units of the adrenal lesion to suggest adrenal adenoma, to proceed with Whipple procedure and Left Adrenal gland excision.

Patient underwent Diagnostic Laparoscopy to rule out intra abdominal metastases. Later proceeded with the Whipple procedure. Intraoperatively we found a firm to hard lesion in the superior part of pancreas adjacent to CBD which was extending upto neck of pancreas. There was a dense desmoplasia around the common hepatic artery which was excised close to the artery. We proceeded with the dissection of the uncinate process and performed extended resection along the neck to obtain negative margin. Left adrenal lesion excised. Specimen picture shown in Fig. 4. Reconstruction done with duct to mucosa pancreaticojejunostomy, hepaticojejunostomy, antecolic gastrojejunostomy and Braun jejunojejunostomy.

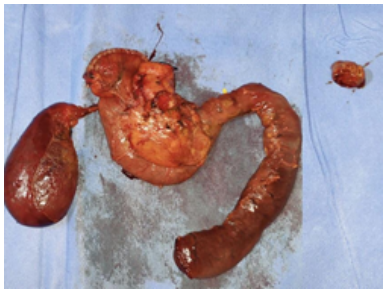
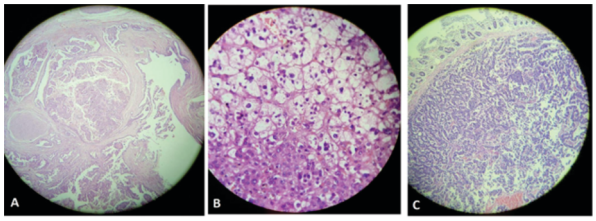


Fig. 4: Specimen of pancreaticoduodenectomy and Left adrenal lesion.

Patient had an uneventful postoperative period and he was discharged on postoperative day 8 with all the drains removed. Histopathological examination of the excised specimen shows growth of size 2*1.5cm in the distal CBD infiltrating pancreas, microscopic features suggestive of adenocarcinoma. All margins were negative except the superior border of pancreas where few cancer cells were seen. A total of 16 lymph nodes were harvested, out of which none showed metastatic deposits. Perineural and lymphovascular invasion was present. Small polyp noted in duodenum of size 0.3*0.3cm which showed well differentiated neuroendocrine tumor limited to submucosa. Adrenal lesion of size 2.4*1.9cm was suggestive of adenoma. Representative histopathological pictures are shown in Fig. 5. Case was represented in the Multidisciplinary Tumor Board and a decision was made to subject the patient to adjuvant chemoradiation of 50Gy given over 25 fractions along with Capecitabine followed by chemotherapy consisting of Gemcitabine and Capecitabine.



A: Microscopic Image of Distal Cholangiocarcionoma
B: Adrenal Adenoma
C: Duodenal Neuroendocrine Tumor

Fig. 5: Microscopic Pictures of the lesions.

DISCUSSION

Billroth was the first to describe multiple primary neoplasms in one patient, in 1879. Multiple primary malignancy is defined by Warren and Gates as the tumor which has a definite feature of malignancy, separate and distinct from index tumor, and the possibility of metastasis has to be ruled out[9]. Several factors have been implicated in the development of the second primary like genetic predisposition, environmental, hormonal factors, previous treatment with chemotherapy or radiation[5]. Genetic analysis has shown microsatellite instability was a frequent association with multiple primary malignancies[10]. Overall incidence of double primary malignancy with pancreatic carcinoma has been described in the range of 1-20% in various cancer registries[11]. Kamisawa[12] had described a high incidence of stomach malignancy associated with pancreatic malignancies. Gerdes[13] described a series of pancreatic malignancies in which 18.8% patients had multiple malignancies and he suggested further workup to identify genetic markers in family members. The aggressiveness and stage of manifestation of the more advanced tumor determine the prognosis of patients with dual malignancies[14]. Talreja V[15] has described a synchronous Periampullary carcinoma with lung carcinoma in 2018. Praveer Rai[16] has described Gallbladder carcinoma with ampullary carcinoma in a single patient in the year 2013. Kumar L[17] has reported a case of periampullary carcinoma with renal cell carcinoma in 2020. Durgatosh Pandey[18] has described a case of intrahepatic cholangiocarcinoma with adrenal metastasis. Searching the literature with keywords of distal cholangiocarcinoma, adrenal adenoma and neuroendocrine tumor we could not find any literature with this combination in a single individual. Hence we consider this case report as first in literature to the best of our knowledge. The diagnosis of adrenal adenoma can be based on the Hounsfield units- less than 10HU in unenhanced scan and relative washout of more than 40% in contrast CT[19]. Duodenal Neuroendocrine tumor was well differentiated and limited to submucosa, which was excised completely. Adrenal adenoma was also completely excised. Distal cholangiocarcinoma being aggressive malignancy among the three determines the prognosis of this patient. Since superior border of pancreas showed few malignant cells suggestive of R1 resection, adjuvant radiotherapy and chemotherapy should provide the patient best possible survival. Generally the tendency is to consider any lesion associated with distal cholangiocarcinoma as metastasis, we suggest that clinical decision making considering the tumor marker value, presence of metastasis in common sites like lymph nodes and liver is more important.

CONCLUSION

Multiple primary neoplasm in an individual is not a common finding. Association of distal cholangiocarcinoma with other primary tumors has not been reported in the literature. We report the first case of, to the best of our knowledge, distal cholangiocarcinoma with synchronous adrenal adenoma and duodenal neuroendocrine tumor in an individual. We suggest adrenal gland is not a common site for metastasis in the absence local lymph node involvement and lower levels of CA 19-9.

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Conflict of Interest

We have no conflict of interest to declare.

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